ABSTRACT

Methods, devices, and systems for unbiased transport of materials on a microfluidic device are disclosed, including methods of maintaining the starting composition of an analyte during transport, and methods of simultaneously analyzing both cationic and anionic components of an analyte. Analyte is loaded into a four-way junction of channels by controlled differential pressure applied to the channels. After analyte loading, an electrical potential is established, forcing charged species into at least one of two separation channels.